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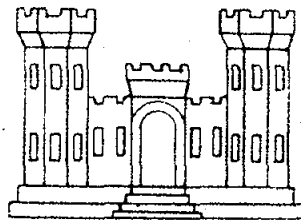
PRELIMINARY EXAMINATION

(REVIEW OF REPORTS)

OF

ESSEX RIVER

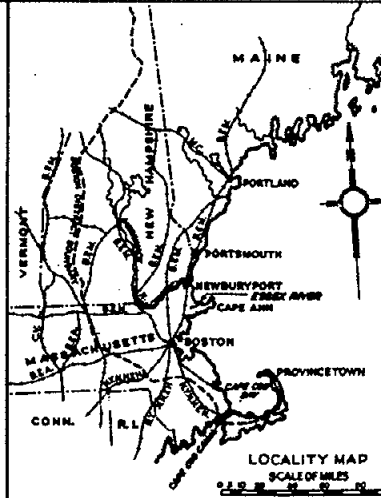
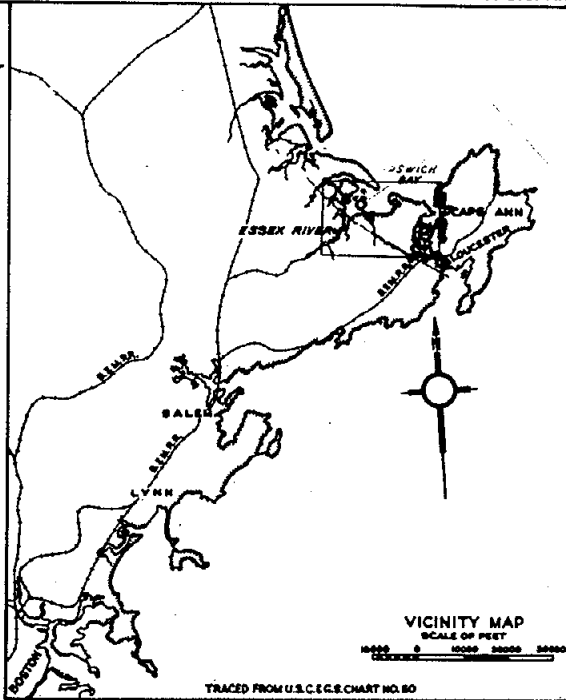
MASSACHUSETTS



AUTHORITY—THIS REPORT IS
SUBMITTED IN COMPLIANCE
WITH RESOLUTION, ADOPTED
28 FEB. 1945, BY THE COMMITTEE
ON RIVERS AND HARBORS OF
THE HOUSE OF REPRESENTA-
TIVES, UNITED STATES.

U. S. ENGINEER OFFICE.
BOSTON, MASS.
22 AUG. 1945

COPY NO. 20



NOTE: DEPTHS ARE EXPRESSED IN FEET BELOW MEAN LOW WATER AND ARE TAKEN FROM U.S.C. & G.S. CHART NO. 243.

**ESSEX RIVER
MASSACHUSETTS**

SCALE OF FEET
0 1000 2000

U. S. ENGINEER OFFICE, BOSTON, MASS. 17 AUG. 1941

APPROVAL RECOMMENDED:

APPROVED: _____

John E. Blane
FBI - MEMPHIS

SUBMITTED:

SECRET

H. Z. Lurichson.

TRANSMITTED WITH REPORT

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DATE 29 AUG 1945

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FILE NO. 104. DR. 38

C O P Y

SUBJECT: Preliminary Examination (Review of Reports) of Essex River,
Massachusetts

NEDGW

(22 Aug 45)

1st Ind.

CAT/mms

Division Engineer, New England Division, Boston 10, Mass., 29 August 1945

TO: The Chief of Engineers, U. S. Army, Washington 25, D. C.

I concur in the unfavorable report of the District Engineer.

/s/ J. A. O'Connor
J. A. O'CONNOR
Brigadier General
Division Engineer

1 Incl: n/c

PRELIMINARY EXAMINATION (REVIEW OF REPORTS) OF
ESSEX RIVER, MASS.

- - - - -
Syllabus

The district engineer is of the opinion that the turning basin at the head of navigation in Essex River should be provided by local interests and that, since the desired channel is the same as that authorized under the existing project, no modification is necessary and therefore recommends that no survey for the modification of the project be made.

War Department,
United States Engineer Office,
Boston 16, Massachusetts,
22 August 1945.

Subject: Preliminary Examination (Review of Reports) of Essex River, Massachusetts.

To: The Chief of Engineers, U. S. Army, Washington, D. C.,
through the Division Engineer, New England Division, Boston 10, Massachusetts.

1. Authority.-- This report is submitted in compliance with the following resolution, adopted 28 February 1945, by the Committee on Rivers and Harbors of the House of Representatives, United States Congress:

RESOLVED BY THE COMMITTEE ON RIVERS AND HARBORS OF THE HOUSE OF REPRESENTATIVES, UNITED STATES, That the Board of Engineers for Rivers and Harbors, created under section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the reports on Essex River, Mass., submitted in House Document Numbered 68, Fifty-ninth Congress, first session, with a view to determining if it is advisable to modify the existing project in any way at this time.

2. Report under review.-- The report under review was submitted by the district engineer 23 May 1905 and printed in House Document No. 68, 59th Congress, 1st session. The report, which was unfavorable to deepening the channel to 6 feet at mean low water, was concurred in by the Chief of Engineers and the Board of Engineers for Rivers and Harbors. It was the opinion of the district engineer that the improvement would

require the dredging of a channel 1-1/2 miles through mud and 1 mile through muddy sand, and that frequent redredging would be necessary for its maintenance, the cost of which would be so high as to render Essex River unworthy of further improvement by the Federal Government.

3. Description.- The Essex River is a comparatively small river, about 5 miles long in its navigable portion, lying immediately to the north of the Annisquam River. It drains the Chebacco Lake system and flows in a generally northeasterly direction, discharging through Essex Bay into Ipswich Bay, north of Cape Ann.

4. A 6-foot channel of ample width extends for 2-1/2 miles from the bar at the mouth to a point a little above Cross Island. From that point for 2-1/2 miles to the head of navigation at the highway bridge in the village of Essex, the channel is crooked and narrow with depths of 3 to 5 feet at mean low water through a large part of the stream, and 1-1/2 to 2 feet in the half mile of shoaled section.

5. The mean range of tide is 8.8 feet and the spring range is 10 feet. No questions of water power, flood control, or other special subjects are involved, and no bridges cross that portion of the river which is under consideration in this report. The locality is shown on U.S. Coast and Geodetic Survey Charts Nos. 243 and 1206, and on the map accompanying this report.

6. Tributary area.- The locality concerned with the improvement of Essex River is the town of Essex, which is the only town on the river. In 1940 it had a population of 1,384, and the assessed valuation of its real estate was \$1,664,260. A small summer colony is located on the river at Conomo Point opposite Cross Island. A half dozen cruisers and about 25 skiffs and little sailboats are based at this point during the summer months. There are two shipyards located in the town of Essex engaged in the construction of wooden fishing boats. They launch about

two ships a year at present and employ approximately 25 people. This is the only industry on the river. Since the discontinuance of the Essex Branch of the Boston & Maine Railroad in December 1942, there are no rail connections. The town is located on the main highway between Gloucester and Newburyport.

7. Prior reports.- There have been two reports on Essex River. The first one was made in 1891 and recommended the existing project. The second was made in 1905 and was unfavorable to dredging the channel to 6 feet. This is the report under review.

8. Existing project.- The original project, which is also the existing project for Essex River, was adopted 13 July 1892. It provided for a channel 4 feet deep and 60 feet wide to the then head of navigation (the railroad bridge at Essex), but was modified 23 March 1899 by limiting the improvement to the channel below the highway bridge which had been rebuilt without a draw. The project was completed in 1901. To 30 June 1912 the amount expended on Essex River was \$30,000, of which \$21,759.21 was for new work and \$8,240.79 was for maintenance. It was stated in the Annual Report of 1912 that the river was no longer considered worthy of maintenance.

9. Local cooperation.- The River and Harbor Act of 2 March 1907 appropriated \$5,000 for the restoration of the channel in Essex River provided that the Commonwealth of Massachusetts, or other agency, place \$5,000 at the disposal of the Secretary of War to be spent under his direction on said project. This condition was complied with.

10. Other improvements.- In 1922 and 1923 the Commonwealth of Massachusetts dredged the channel in Essex River to a depth of 6 feet at mean low water and a width of 60 feet, at a cost of \$71,304.33.

11. Terminal and transfer facilities.- There are no terminal and transfer facilities on Essex River. The only wharf in use is a small

timber bulkhead used by a lobsterman. An old timber bulkhead in unusable condition is located adjacent to the highway bridge in the cut behind the island. There are no permanent ways at the shipbuilding plants, temporary installations being used for launching the vessels.

12. Improvement desired.- In order to obtain the views of interested parties concerning the improvement desired, a public hearing was held at Essex, Massachusetts on 11 May 1945. Present at the hearing, which was well attended, were representatives of the shipbuilding and clamming industries, the Massachusetts Department of Public Works, the Board of Selectmen, the Chamber of Commerce, the local yacht club, and business men of the town.

13. The improvement desired by local interests is essentially the restoration of the existing project, which is a channel 4 feet deep and 60 feet wide to the head of navigation, and the provision of a turning basin of the same depth at the upper end near the highway bridge.

14. It was stated by local interests that the principal industry in Essex is shipbuilding, and that an adequate channel for handling the vessels built in the yards is necessary for the continuance of their business. Two shipyards are operating at present, with one more in prospect. They build wooden fishing vessels 80 to 100 feet in length and with drafts of 9 to 10 feet when they are launched. The present channel has just sufficient depth and width at high tide to permit these boats to be towed down the river to Ipswich Bay. The pilot of the tug finds it necessary to mark the channel with small buoys at low tide in order to navigate it at high tide without grounding. In many places with a 9-foot tide there is not more than 1 to 1-1/2 feet of water under the vessel.

15. A representative of the clammers stated that although at one time clamming had been a very important industry in Essex, it was now

practically extinct. The need to revive it is great, and it could be accomplished at very little expense by dumping the material dredged from the channel on the unproductive banks of the river. This procedure was followed when the channel was first dredged in 1894-1900. All material taken out of the river and placed on the banks was immediately productive and has continued to produce. Clams are now being shipped all over the country since the development of freezing and refrigerating plants, and the industry has an excellent future if the clams can be produced.

16. Reference was made to a young man who conducted a successful seaweed and sea moss business for a while. His business grew but when he could not bring his materials in by boat because of the shallow depths in the river, he was compelled to move his business back to Gloucester.

17. The operator of a local lumber yard stated that unless the channel is dredged he will not be able to continue his business after the war. Since the discontinuance of the railroad about three years ago, everything has had to be brought in to Essex by boat or truck. The condition of the channel prohibits receipt of his lumber by boat, so it has to come in by truck, resulting in an increase in cost of about \$12 per thousand, which, of course, has to be paid by the consumers. After the war he will have to meet the prices of his competitors in the surrounding towns who receive their lumber by boat or rail, and unless he is able to do this, he will be forced to go out of business. His dealers have stated that they would ship him cargoes of lumber if their boats could get up Essex River. He now sells 100,000 to 125,000 F.B.M. annually.

18. All proponents spoke in favor of a turning basin and considered it a necessary complement to the improved channel. It was evident that it would serve all interests for a variety of purposes. The shipbuilders stated that the basin would eliminate many of their launching difficulties

and dangers. From the time the boat leaves the ways until it is taken in tow by the tug, skillful maneuvering is necessary to prevent its being grounded because of the narrowness of the channel. The basin would make this operation less hazardous. The lumber dealer stated that without a basin the boats bringing in his lumber would not be able to turn around but would have to back out the river, which would be both awkward and dangerous in the crooked channel. The recreational and pleasure boat interests said that it would serve as a mooring basin for small boats, thus encouraging sportsmen, yachtsmen and small boat owners to frequent the locality and enjoy its recreational facilities. It was stated that Ipswich Bay is one of the best tuna fishing grounds along the coast and that the black duck and coot shooting would appeal to another group of sportsmen.

19. The establishment of a boat repair shop at Essex is under consideration by an able mechanic, but that is contingent upon the dredging of the channel, and the increase in the number of boats using the river. Such an enterprise is impractical under present conditions.

20. Commerce.-- There is no commerce on Essex River.

21. Vessel traffic.-- The traffic using Essex River consists of the newly constructed beam trawlers and draggers which are built at the two shipyards located on the river and towed to Gloucester for installation of the engines and fitting out. The newly constructed craft have the deepest drafts (approximately 9 feet) of any using the river. Small motorboats, cruisers, lobster fishing boats and small boats used in clamming account for the greatest number of passages up and down the river, the figures for which are not of record. The following table shows the number of boats built on Essex River during the past five years:

<u>Year</u>	<u>Ships built</u>
1940	3
1941	2
1942	2
1943	1
1944	3

22. Difficulties attending navigation.- The principal difficulty attending navigation in Essex River is the shallowness and narrowness of the channel which is claimed to be such as to prohibit the use of the river by boats of 2- to 3-foot draft at low tide. It is stated that on low tides the river has about 1-1/2 feet of water in the center of the channel, and boats frequently go aground on the shoals. This difficulty is experienced mainly in one short reach of the river.

23. Discussion.- A visual inspection at low tide revealed that the river has shoaled along the edges of the channel, narrowing it as well as reducing its depth, and that its present condition is substantially as claimed by the proponents.

24. There has been an average of 2 vessels a year built in the Essex shipyards during the past 5 years, with 4 under construction in 1945. There are about 25 people currently employed. The cost of each boat as it leaves the yard is \$35,000 to \$45,000. After the war it is expected that the release of critical materials and the demands for fishing boats will increase the activities of the shipyards. A new yard is being opened and expects to start building shortly. It was learned that the yards have been compelled to refuse contracts for larger vessels due to insufficient depth to float them down the river.

25. The town of Essex issues about 100 clam permits a year and the value of the clams taken is said to be about \$125,000 annually. Another \$125,000 was stated to be derived indirectly from the clamming industry through shucking, transportation, and the business created in local restaurants. This is an important industry in the town, but it

is not affected by the condition of the river channel. As to benefiting the clam industry by using the spoil from dredging, there are no areas available with deep water on which material could be dumped to make new clam flats. The material from the dredging in 1907 and 1922 was dumped out at sea.

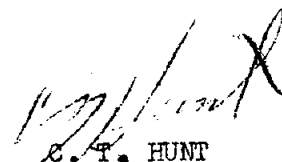
26. The provision of a basin at the upper end of the channel by dredging out the island in the bend of the river would benefit the shipyards by providing more room for launching vessels. However, the need for such a basin in the past was not sufficiently urgent to cause the yards to dredge it at their own expense. During the many years of operating at this site, the only dredging done by any local yard was the cut across the bend which made the existing island. This cut was made for the construction of a wharf and a berth in which to tie up vessels while completing them. If any commerce using vessels over 60 feet in length were to develop, the basin would be necessary as a turning basin. At present, only the lumber dealer has any prospect of such development with an improved channel.

27. The principal benefits to be derived from the improvement are those accruing to the shipbuilders in constructing fishing boats. An improved channel would enable them to build vessels of deeper draft, greatly increasing the number built annually, and would render the towing of all hulls to Ipswich Bay much less hazardous. The use of the channel by lobstermen, clambers and pleasure craft would be considerably increased on account of the greater depths at low water. These benefits are not susceptible of evaluation.

28. Conclusion.- It is the conclusion of the district engineer that the basin at the head of navigation in the Essex River should be provided by the local interests and that the desired channel is the same as that authorized under the existing project and no modification is necessary. It is further concluded that the project is worthy of maintenance,

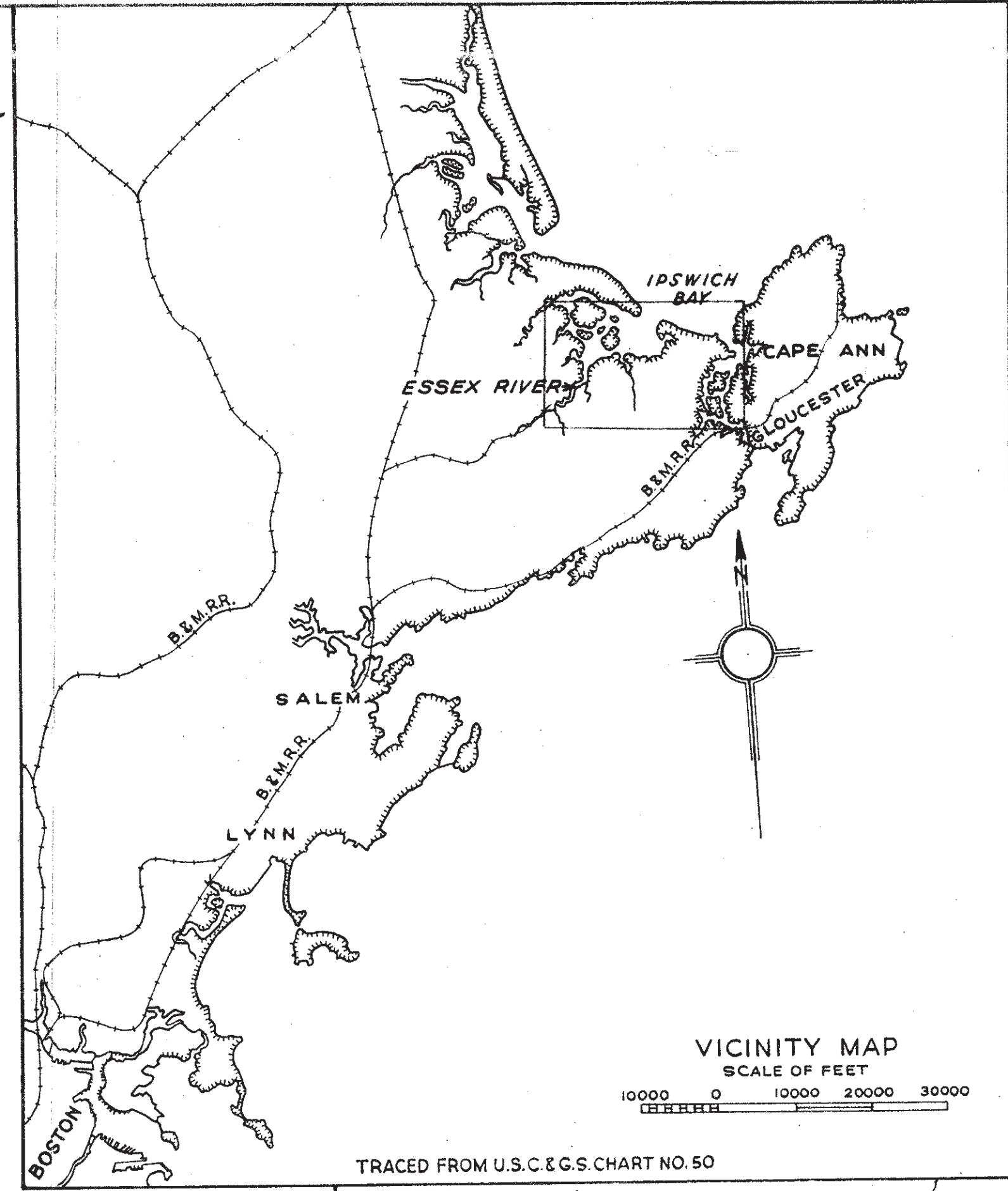
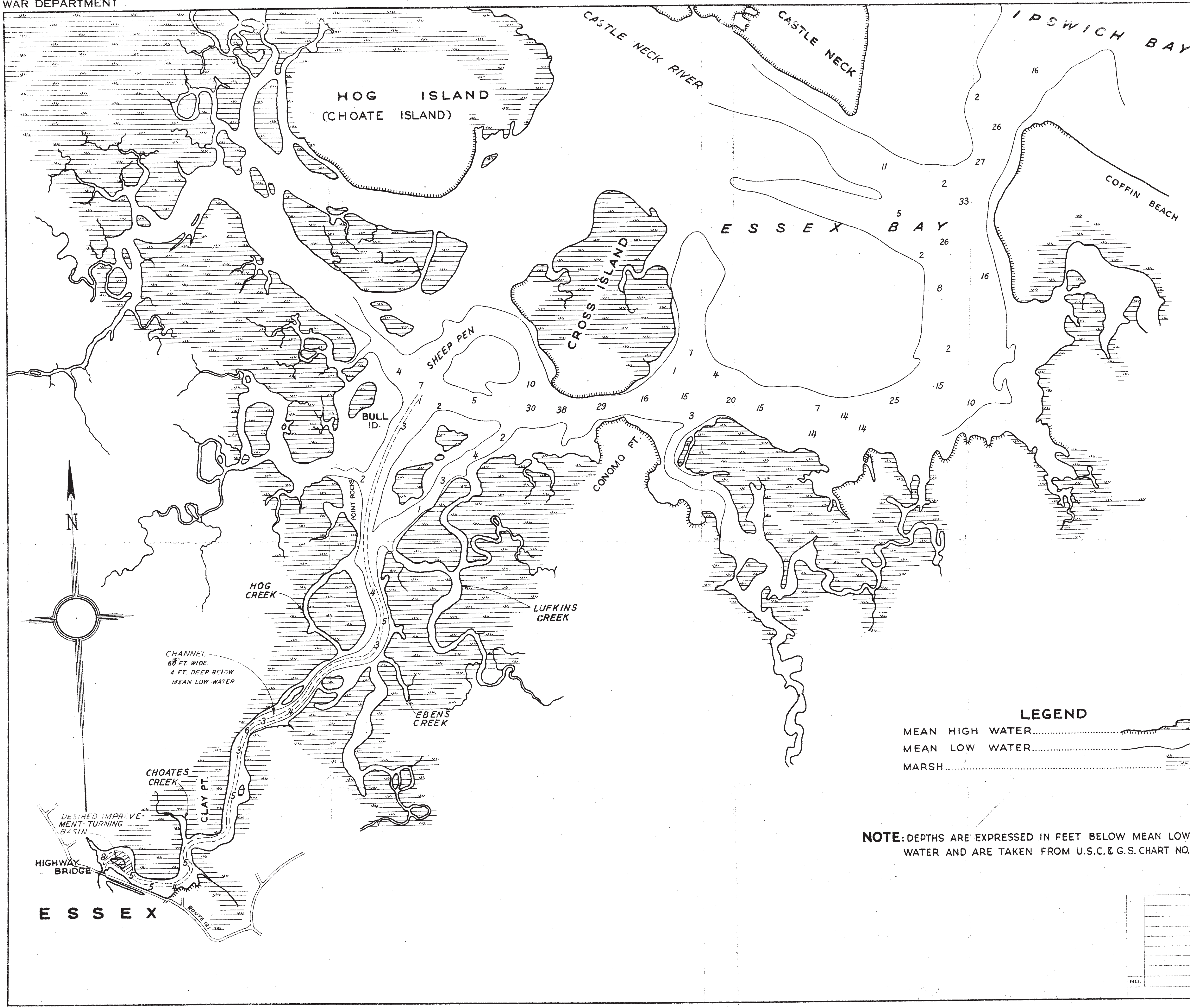
provided it can be accomplished at a reasonable cost.

29. Recommendation.- In view of the foregoing, it is recommended that no survey for the modification of the project be made.



C. T. HUNT
Colonel, Corps of Engineers
District Engineer

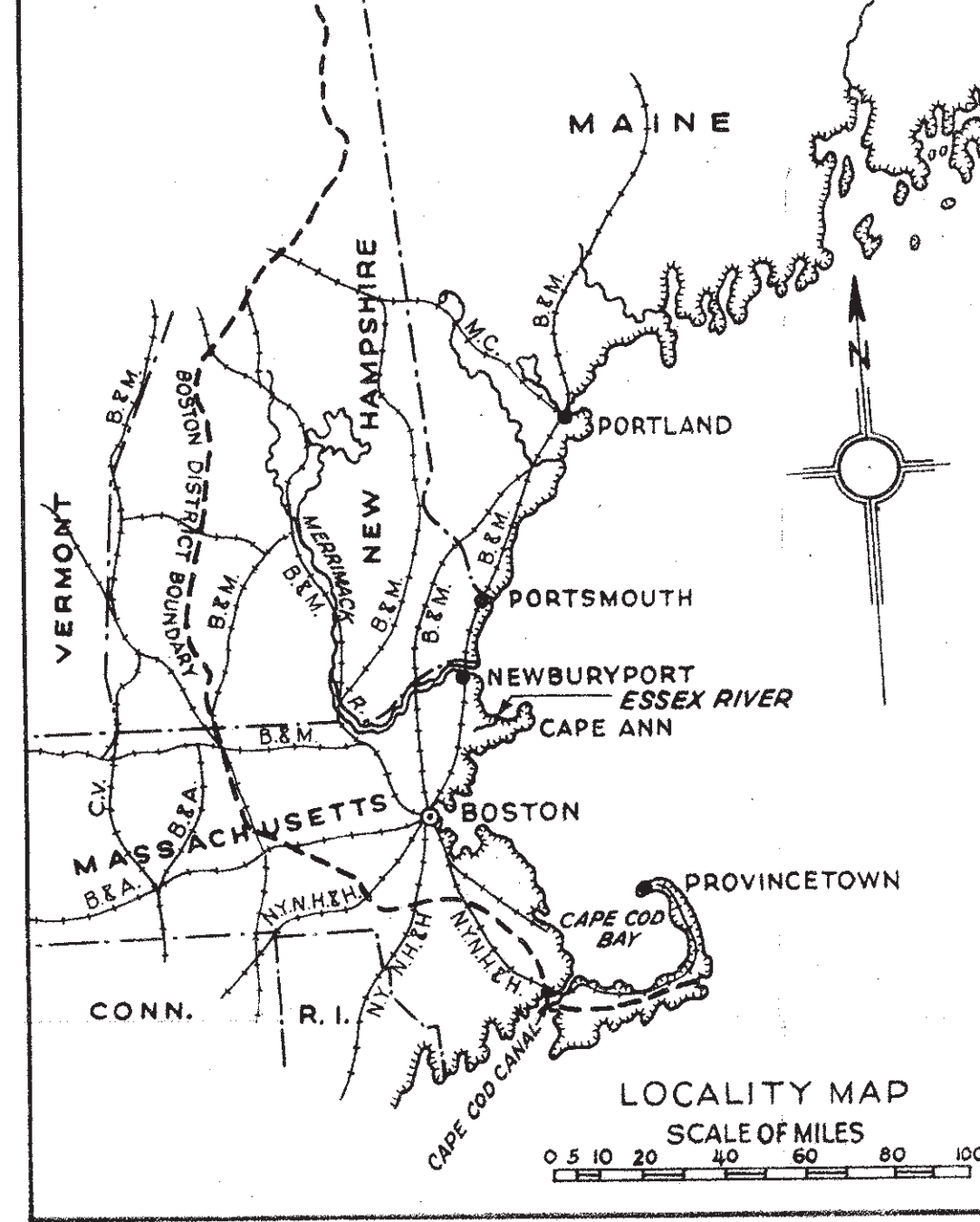
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MEAN LOW WATER.....
MARSH.....

NOTE: DEPTHS ARE EXPRESSED IN FEET BELOW MEAN LOW WATER AND ARE TAKEN FROM U.S.C. & G.S. CHART NO. 243.



ESSEX RIVER
MASSACHUSETTS

SCALE OF FEET
1000 0 1000 2000

U. S. ENGINEER OFFICE, BOSTON, MASS. 17 AUG, 1945

APPROVAL RECOMMENDED:
John E. Allen
SUBMITTED:
H. J. W. Lichten

APPROVED:
[Signature]
TRANSMITTED WITH REPORT
DATED 22 AUG. 1945

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